PARSONS

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TECHNICAL MEMORANDUM

Tar Seep Sampling and Removal

Former Barrett Manufacturing Site

Brooklyn, New York

This memorandum summarizes the results of tar seep sampling and removal that was performed in accordance with the scope of work approved by NYSDEC on July 25, 2018. The field work was conducted on August 10, 2018.

Photographs of the tar sampling and removal are attached.

Tar Sampling

Tar sampling was conducted at the tar seep locations listed below and identified on Figure 1:

1. SEEP1
2. SEEP2
3. SEEP3
4. SEEP4

Tar seeps were sampled using a steel chisel and stainless-steel knife.

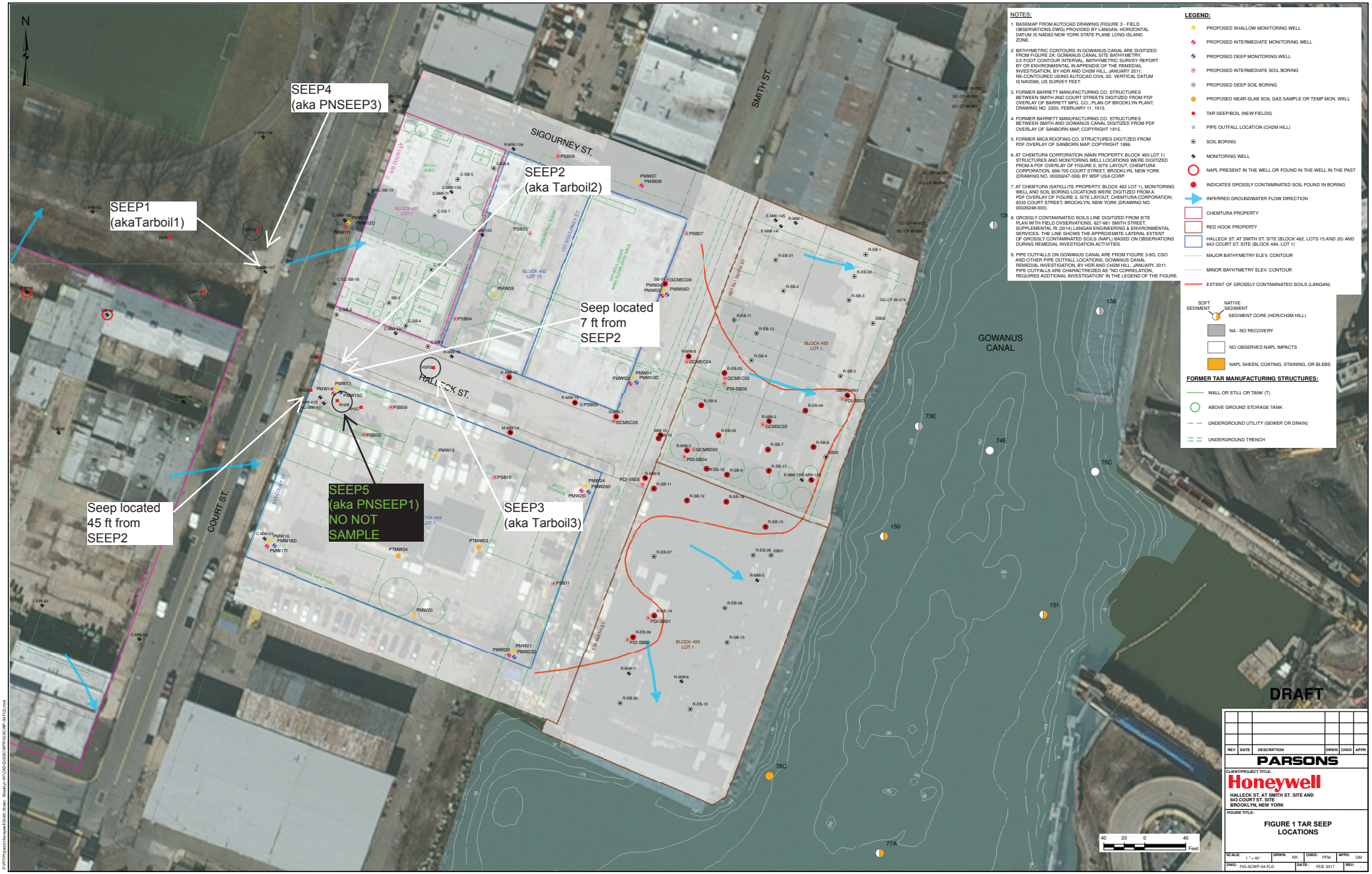
Two additional tar seeps were observed to be present in the side walk along Halleck and Court streets near a chain-link fence and proximate to SEEP2 as described below; these seeps were not sampled, but were removed as described below.

Tar Removal

After the tar seeps samples were collected, the tar was removed from the ground surface using hand held tools and placed in a 55-gallon drum for proper off-site disposal. Tar seeps were removed at the following locations:

1. SEEP1
2. SEEP2
3. SEEP3
4. SEEP4
5. Seep located 7 feet from SEEP 2 on Halleck St. (along fence)
6. Seep located 45 feet from SEEP 2 on Court St. (along fence)

A mixture of stone dust and fine sand was applied to the ground surface where the tar was removed to bind any residual material. Topsoil was also applied at several locations to replace topsoil removed during the seep removal process.



NOTES:

1. BASEMAP FROM AUTOCAD DRAWING (FIGURE 3 - FIELD OBSERVATIONS.DWG) PROVIDED BY LANGAN. HORIZONTAL DATUM IS NAD83 NEW YORK STATE PLANE LONG ISLAND ZONE.
2. BATHYMETRIC CONTOURS IN GOWANUS CANAL ARE DIGITIZED FROM FIGURE 2A: GOWANUS CANAL SITE BATHYMETRY 0.5 FOOT CONTOUR INTERVAL, BATHYMETRIC SURVEY REPORT BY CR ENVIRONMENTAL IN APPENDIX OF THE REMEDIAL INVESTIGATION, BY HDR AND CH2M HILL, JANUARY 2011; RE-CONTOURED USING AUTOCAD CIVIL 3D. VERTICAL DATUM IS NAVD88, US SURVEY FEET.
3. FORMER BARRETT MANUFACTURING CO. STRUCTURES BETWEEN SMITH AND COURT STREETS DIGITIZED FROM PDF OVERLAY OF BARRETT MFG. CO., PLAN OF BROOKLYN PLANT, DRAWING NO. 2200, FEBRUARY 11, 1913.
4. FORMER BARRETT MANUFACTURING CO. STRUCTURES BETWEEN SMITH AND GOWANUS CANAL DIGITIZED FROM PDF OVERLAY OF SANBORN MAP, COPYRIGHT 1915.
5. FORMER MICA ROOFING CO. STRUCTURES DIGITIZED FROM PDF OVERLAY OF SANBORN MAP, COPYRIGHT 1886.
6. AT CHEMTURA CORPORATION (MAIN PROPERTY, BLOCK 493 LOT 1) STRUCTURES AND MONITORING WELL LOCATIONS WERE DIGITIZED FROM A PDF OVERLAY OF FIGURE 2, SITE LAYOUT, CHEMTURA CORPORATION, 698-700 COURT STREET, BROOKLYN, NEW YORK (DRAWING NO. 00026247-006) BY WSP USA CORP.
7. AT CHEMTURA (SATELLITE PROPERTY, BLOCK 492 LOT 1), MONITORING WELL AND SOIL BORING LOCATIONS WERE DIGITIZED FROM A PDF OVERLAY OF FIGURE 2, SITE LAYOUT, CHEMTURA CORPORATION, 6333 COURT STREET, BROOKLYN, NEW YORK (DRAWING NO. 00026248-003).
8. GROSSLY CONTAMINATED SOILS LINE DIGITIZED FROM SITE PLAN WITH FIELD OVSERVATIONS, 627-661 SMITH STREET, SUPPLEMENTAL RI (2014) LANGAN ENGINEERING & ENVIRONMENTAL SERVICES. THE LINE SHOWS THE APPROXIMATE LATERAL EXTENT OF GROSSLY CONTAMINATED SOILS (NAPL) BASED ON OBSERVATIONS DURING REMEDIAL INVESTIGATION ACTIVITIES.
9. PIPE OUTFALLS ON GOWANUS CANAL ARE FROM FIGURE 3-8G, CSO AND OTHER PIPE OUTFALL LOCATIONS, GOWANUS CANAL REMEDIAL INVESTIGATION, BY HDR AND CH2M HILL, JANUARY, 2011. PIPE OUTFALLS ARE CHARACTREIZED AS "NO CORRELATION, REQUIRES ADDTIONAL INVESTIGATION" IN THE LEGEND OF THE FIGURE.

LEGEND:

- PROPOSED SHALLOW MONITORING WELL
- PROPOSED INTERMEDIATE MONITORING WELL
- PROPOSED DEEP MONITORING WELL
- PROPOSED INTERMEDIATE SOIL BORING
- PROPOSED DEEP SOIL BORING
- PROPOSED NEAR-SLAB SOIL GAS SAMPLE OR TEMP MON. WELL
- TAR SEEP/BOIL (NEW FIELDS)
- PIPE OUTFALL LOCATION (CH2M HILL)
- SOIL BORING
- MONITORING WELL
- NAPL PRESENT IN THE WELL OR FOUND IN THE WELL IN THE PAST
- INDICATES GROSSLY CONTAMINATED SOIL FOUND IN BORING
- INFERRED GROUNDWATER FLOW DIRECTION
- CHEMTURA PROPERTY
- RED HOOK PROPERTY
- HALLECK ST. AT SMITH ST. SITE (BLOCK 492, LOTS 15 AND 20) AND 643 COURT ST. SITE (BLOCK 494, LOT 1)
- MAJOR BATHYMETRY ELEV. CONTOUR
- MINOR BAYHTMETRY ELEV. CONTOUR
- EXTENT OF GROSSLY CONTAMINATED SOILS (LANGAN)

SOFT SEDIMENT / NATIVE SEDIMENT
- SEDIMENT CORE (HDR/CH2M HILL)
- NA - NO RECOVERY
- NO OBSERVED NAPL IMPACTS
- NAPL SHEEN, COATING, STAINING, OR BLEBS

FORMER TAR MANUFACTURING STRUCTURES:
- WALL OR STILL OR TANK (T)
- ABOVE GROUND STORAGE TANK
- UNDERGROUND UTILITY (SEWER OR DRAIN)
- UNDERGROUND TRENCH

40 20 0 40 Feet

REV	DATE	DESCRIPTION	DRWN	CHKD	APPR

PARSONS

CLIENT/PROJECT TITLE:
Honeywell
HALLECK ST. AT SMITH ST. SITE AND
643 COURT ST. SITE
BROOKLYN, NEW YORK

FIGURE TITLE:
FIGURE 1 TAR SEEP LOCATIONS

SCALE:	DRWN:	CHKD:	APPD:
1" = 40'	RR	PPM	DM

DWG: FIG-SCWP-04-FLD DATE: FEB. 2017 REV: -

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SEEP1

Pre-sampling

Post-removal

Post-removal
w/ sand/stone dust

SEEP2

Pre-sampling

Post-removal

Post-removal
w/ sand/stone dust
and top soil

SEEP3

Pre-sampling

Post-removal

Post-removal
w/ sand/stone dust

SEEP4

Pre-sampling

Post-removal

Post-removal
w / topsoil

Pre-removal

Seep located 7 ft from SEEP2 (Halleck St.)

Post-removal
w / sand/stone dust

Pre-removal

Seep located 45 ft from SEEP2 (Court St.)

Post-removal
w / sand/stone dust